

**AMENDMENTS TO THE CLAIMS:**

This listing of the claims below will replace all prior versions and listing of claims in this application.

1-193. (Canceled)

194. (Currently amended) A method of producing a heteromeric taste receptor ~~that responds to umami taste stimuli~~ comprising:

expressing at least one T1R1 nucleic acid sequence and at least one T1R3 nucleic acid sequence in a recombinant host cell under conditions which result in a heteromeric taste receptor comprising at least one T1R1 and T1R3 polypeptide ~~that is activated by umami taste stimuli~~, wherein said T1R1 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 8, (ii) encoded by a nucleic acid sequence comprising a nucleic acid that hybridizes to SEQ. ID. NO: 8 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, and 1% SDS and washing at 65°C in a solution comprising 0.2X SSC and 0.1% SDS, or (iii) a T1R1 polypeptide possessing at least 95% sequence identity to SEQ. ID. NO: 5;

and wherein said T1R3 polypeptide is (i) encoded by a nucleic acid sequence comprising SEQ. ID. NO: 9; (ii) encoded by a nucleic acid sequence that hybridizes to SEQ. ID. NO: 9 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS, or (iii) a T1R3 polypeptide possessing at least 95% sequence identity to SEQ. ID. NO: 7.

195. (Canceled)

196. (Currently amended) The method of claim ~~195~~ 194, wherein said T1R1 and T1R3 ~~polypeptides~~ are of the same species ~~origin~~.

197. (Canceled)

198. (Currently amended) The method of claim 194, wherein said T1R1 ~~polypeptide~~ is a human T1R1 polypeptide ~~having~~ comprising the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 5.

199. (Canceled)

200. (Currently amended) The method of claim 194, wherein said T1R1 polypeptide is a human T1R1 polypeptide that ~~exhibits~~ possesses at least 95% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 5.

201. (Currently amended) The method of claim 194, wherein said T1R1 polypeptide is a human T1R1 polypeptide that ~~exhibits~~ possesses at least 96% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 5.

202. (Currently amended) The method of claim 194, wherein said T1R1 polypeptide is a human T1R1 polypeptide that ~~exhibits~~ possesses at least 97% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 5.

203. (Currently amended) The method of claim 194, wherein said T1R1 polypeptide is a human T1R1 polypeptide that ~~exhibits~~ possesses at least 98% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 5.

204. (Currently amended) The method of claim 194, wherein said T1R1 polypeptide is a human T1R1 polypeptide that ~~exhibits~~ possesses at least 99% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 5.

205. (Currently amended) The method of claim 194, wherein said T1R1 polypeptide is encoded by the nucleic acid sequence ~~contained in~~ of SEQ. ID. NO: 8.

206. (Currently amended) The method of claim 194, wherein said T1R1 polypeptide is encoded by a nucleic acid sequence that hybridizes to SEQ ID NO: 8 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS ~~to the nucleic acid sequence contained in SEQ. ID. NO: 8, or a fragment thereof that when expressed in association with a T1R3 polypeptide yields a T1R1/T1R3 receptor that binds and/or is activated by umami taste stimuli.~~

207. (Canceled)

208. (Currently amended) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide ~~having~~ comprising the amino acid sequence ~~contained in~~ of SEQ. ID. NO: 7.

209. (Canceled)

210. (Currently amended) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 95% ~~Sequence~~ sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 7.

211. (Currently amended) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 96% ~~Sequence~~ sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 7.

212. (Currently amended) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 97% ~~Sequence~~ sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 5.

213. (Currently amended) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 98% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 5.

214. (Currently amended) The method of claim 194, wherein said T1R3 polypeptide is a human T1R3 polypeptide that possesses at least 99% sequence identity to the polypeptide ~~contained in~~ of SEQ. ID. NO: 7.

215. (Canceled)

216. (Currently amended) The method of claim 194, wherein the T1R3 polypeptide is encoded by a nucleic acid sequence ~~contained in~~ of SEQ. ID. NO: 9.

217. (Currently amended) The method of claim ~~193~~ 194, wherein said T1R3 polypeptide is encoded by a nucleic acid sequence that hybridizes to ~~the nucleic acid sequence contained in~~ SEQ. ID. NO: 9 under stringent hybridization conditions which are conducting the hybridization reaction at 42°C in a solution comprising 50% formamide, 5X SSC, 10% SDS; and washing at 65°C in a solution comprising 0.2X SCC and 0.1% SDS or a fragment thereof that encodes a T1R3 polypeptide that when expressed in association with a T1R1 polypeptide yields a heteromeric taste receptor that responds to umami taste stimuli.

218. (Previously presented) The method of claim 194, wherein said T1R1 and said T1R3 nucleic acid sequences are each operably linked to a constitutive promoter.

219. (Previously presented) The method of claim 194, wherein, said T1R1 and

said T1R3 nucleic acid sequences are each operably linked to an inducible promoter.

220. (Previously presented) The method of claim 194, wherein said T1R1 and T1R3 nucleic acid sequences are expressed in a prokaryotic cell.

221. (Previously presented) The method of claim 194, wherein said T1R1 and T1R3 nucleic acid sequences are expressed in a eukaryotic cell.

222. (Previously presented) The method of claim 221, wherein said cell is a mammalian, yeast, insect or amphibian cell.

223. (Previously presented) The method of claim 221, wherein said cell is a HEK-293 cell, COS cell, CHO cell, or *Xenopus* oocyte.

224. (Previously presented) The method of claim 223, wherein the cell is a HEK-293 cell.

225. (Previously presented) The method of claim 194, wherein said cell expresses a G protein.

226. (Previously presented) The method of claim 225, wherein said G protein is a promiscuous G protein.

227. (Previously presented) The method of claim 225, wherein said G protein is  $G_{\alpha 15}$  and  $G_{\alpha 16}$  or gustducin.

228. (Previously presented) The method of claim 194, wherein said T1R1 and T1R3 polypeptides are expressed on the surface of said cell.

229. (Currently amended) The method of claim 194, wherein either of said T1R1 and T1R3 nucleic acid sequences are ~~attached to~~ are contained in a nucleic acid construct that comprises a nucleic acid sequence that encodes a detectable label.

230. (Previously presented) The method of claims 194, wherein said cell stably expresses said T1R1 and T1R3 nucleic acid sequences.

231. (Previously presented) The method of claim 194, wherein said cell transiently expresses said T1R1 and T1R3 nucleic acid sequences.

232. (Currently amended) The method of the claim 230, wherein said T1R1 ~~polypeptide sequence~~ comprises the amino acid ~~contained in~~ of SEQ. ID. NO: 5 and said

T1R3 polypeptide comprises the amino acid sequence ~~contained in~~ of SEQ. ID NO: 7.

233. (Currently amended) The method of claim 232, wherein said cell further stably expresses  $G_{a15}$ ,  $G_{a16}$  or gustducin.

234. (New) The method of claim 230, wherein said cell is a HEK-293 cell.

235. (New) The method of claim 194, wherein said T1R1 and T1R3 nucleic acid sequences are expressed in an endogenous taste cell.

236. (New) The method of claim 235, wherein the cell is a taste cell present in foliate, circumvallate or fungiform papillae.

237. (New) The method of claim 236, wherein the cell is a taste cell present in geschmackstreifen, oral cavity, gastrointestinal epithelium or epiglottis.

238. (New) The method of claim 237, wherein the cell is a taste cell present in gastrointestinal epithelium.